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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,851	05/27/2005	Yann Georges Lepage	20010.0002USWO	4648
52835 7590 12/10/2009 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER				
KO, STEPHEN K				
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1792				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/536,851

Applicant(s)

LEPAGE ET AL.

Examiner

STEPHEN KO

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-31 is/are pending in the application.
- 4a) Of the above claim(s) 14-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 13 and 24-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 12-13, 24-25, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golden (US 5,351,359).

Golden teaches a method for cleaning ropes, lines or similar items (read as elongated article, abstract) comprising the step of attaching around the ropes, lines or similar items a cleaning device (Fig.1, abstract) including a brush-like scrubbing medium (Fig.2, abstract) and a hydrodynamic drag structure (note that any structure can be a hydrodynamic drag structure, since all structure will produce drag); and towing the ropes, lines, or similar items along its longitudinal axis (Fig.1). Note that a drag will be inherently created during the step of towing ropes, lines, or similar items (the method of Golden can be preformed during retrieval of the ropes, lines, or similar items, col.6, L.9). When the ropes, lines or similar items is towed, an upward force along the longitudinal axis of the towing the ropes, lines, or similar items will be transferred to the cleaning device from the ropes, lines or similar items as the cleaning device and the ropes, lines or similar items are in contact. The force will pull the cleaning device towards a sea surface to a certain extend. As the cleaning device is pulled towards the sea surface by the force, the sea water surrounding the cleaning device will exert a drag (an opposite force against the upward force along the longitudinal axis of the towing the ropes, lines, or similar items) to the cleaning device to assist the cleaning device moving along the towing the ropes, lines, or similar items (moving downward). The drag will assist the cleaning device moving downward when the cleaning device is moving downwardly along the ropes, lines, or similar items during cleaning. Although Golden does not specifically indicate cleaning a towed seismic streamer, since seismic streamer comprises an elongated structure, which is immersed in sea water for a long time and therefore is subject to fouling and Golden teaches cleaning of elongated structures, one

skilled in the art would have found obvious to utilize the method of Golden to clean a towed seismic streamer with reasonable expectation of success.

Regarding to claim 13, reciting the speed of movement of the appliance along the seismic streamer is in a range of between 0.5 and 2.5 meters per second, it is noted that these parameters are result effective, because they affect the scrubbing power of the brush-like scrubbing medium, hence affecting the effectiveness of cleaning, and one skilled in the art would modify different variables to achieve optimum result, consult, *In re Boesch*, 617, F.2d 272, 205 USPQ 215 (CCPA 1980).

For claims 24 and 30, note that the method will maintain approximately constant orientation in relation of the longitudinal axis of the ropes, lines or similar items during the cleaning device moving along the ropes, lines or similar items, as a line (Fig.1, #26) is provided to hold the cleaning device.

For claim 25, note that the cleaning device comprises buoyancy means (col.3, L.9).

For claim 31, since the method of Golden can be used to clean a chain, which has a uneven surface, one skilled in the art would have found obvious to utilize the method of Golden to clean a towed seismic streamer having an appendages (i.e. uneven surface) with reasonable expectation of success. Note that the cleaning method comprises the step of providing the cleaning device astride the whole surfaces of the rope, lines or similar items.

5. Claims 26-27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golden (US 5,351,359) in view of Pickens (US 4,290,123).

Golden teach a method cited above.

Golden remains silent about the steps of positioning and guiding the cleaning appliance by means of at least one pair of members adapted to contact at low friction, respectively, approximately diametrically opposite portions of the outer tubular surface of the seismic streamer, wherein the members are rollers.

Pickens teaches a method comprising the step of positioning and guiding an device coupled on an array comprising the steps of positioning and guiding the cleaning appliance by means of at least one pair of roller (Fig.5, #32a and #32b, col.7, L.6-7) adapted to contact at low friction, respectively, approximately diametrically opposite portion of the outer tubular surface of the seismic streamer (Fig.5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Golden by adding the steps of positioning and guiding the cleaning appliance by means of at least one pair of members adapted to contact at low friction, respectively, approximately diametrically opposite portions of the outer tubular surface of the seismic streamer, wherein the members are rollers as motivated by Pickens to prevent the cleaning device from releasing the array/cable/streamer during cleaning operation, thus, enhance the cleaning efficiency.

For claim 29, note that Pickens teaches moving the roller away from the contact (Fig.2) and forcing the roller into contact with the outer surface of the array/cable (Fig.1, col.6, L.2-4).

6. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golden (US 5,351,359) in view of JP 6-165336.

Golden teaches a method cited above.

Golden remains silent about the steps of positioning and guiding the cleaning appliance by means of at least one pair of members adapted to contact at low friction, respectively, approximately diametrically opposite portions of the outer tubular surface of the seismic streamer, wherein the member are rollers; and cleaning the streamer by rotating at least two brushes positioned on either side of the streamer, said brushes being respectively driven by said rollers engaging the seismic streamer.

However, JP 6-165336 teaches a method comprising position and guiding the cleaning appliance by means of at least one pair of members (Fig.1, #2; and #5, #6 as a whole), comprising rollers (Fig.1, #5 and #6 as a whole), adapted to contact at low friction, respectively, approximately diametrically opposite portions of the outer tubular surface of a cable; and cleaning the streamer by rotating at least two brushes (Fig.1, #6) positioned on either side of the streamer, said brushes being respectively driven by the rollers engaging the seismic streamer (Fig.1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Golden by adding the steps of positioning and guiding the cleaning appliance by means of at least one pair of members adapted to contact at low friction, respectively, approximately diametrically opposite portions of the outer tubular surface of the seismic streamer, wherein the member are rollers; and cleaning the streamer by rotating at least two brushes positioned on either side of the streamer, said brushes being respectively driven by said rollers engaging the seismic

streamer as motivated by JP 6-165336 to prevent the cleaning device from releasing the cable/streamer during cleaning operation, thus, enhance the cleaning efficiency.

Response to Arguments

7. Applicant's arguments filed 08/25/2009 have been fully considered but they are not persuasive.
8. Regarding to applicants' argument that Golden shows a method for cleaning the anchor chain, not the "ropes, lines or similar items", by attaching the cleaning device and hydrodynamic drag structure, the examiner's position is that Golden also suggests that "ropes, lines or similar items" can be also cleaned by attaching the cleaning device and hydrodynamic drag structure (abstract). And since seismic streamer comprises an elongated structure, which is immersed in sea water for a long time and therefore is subject to fouling and Golden teaches cleaning of elongated structures, one skilled in the art would have found obvious to utilize the method of Golden to clean a towed seismic streamer with reasonable expectation of success.
9. Regarding to applicants' argument that Golden does not teach towing of a seismic streamer, rather Golden teaches reciprocating of the retrieval line and weight which moves the cleaning device, the examiner's position is that a drag will be created or at least expected during the step of towing ropes, lines, or similar items (the method of Golden can be preformed during retrieval of the ropes, lines, or similar items, col.6, L.9). When the ropes, lines or similar items is towed, an upward force along the longitudinal axis of the towing the ropes, lines, or similar items will be transferred to the cleaning device from the ropes, lines or similar items as the cleaning device and the

ropes, lines or similar items are in contact. The force will pull the cleaning device towards a sea surface to a certain extend. As the cleaning device is pulled towards the sea surface by the force, the sea water surrounding the cleaning device will exert a drag (an opposite force against the upward force along the longitudinal axis of the towing the ropes, lines, or similar items) to the cleaning device to assist the cleaning device moving along the towing the ropes, lines, or similar items (moving downward). The drag will assist the cleaning device moving downward when the cleaning device is moving downwardly along the ropes, lines, or similar items during cleaning.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN KO whose telephone number is (571)270-

3726. The examiner can normally be reached on Monday to Thursday, 7:30am to 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792